

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An oxynitride phosphor consisting of a crystal which has a unit lattice of the rhombic system, the oxynitride phosphor being represented by a general formula of $L_xM_yO_zN_{((2/3)X+(4/3)Y-(2/3)Z)}:R$ (L is at least one or more of Group II elements selected from the group consisting of Mg, Ca, and Sr, ~~and Ba~~, M is Si, O is an oxygen element, N is a nitrogen element, R is a rare earth element, and wherein $0.5 < X < 1.5$, $1.5 < Y < 2.5$, and $1.5 < Z < 2.5$).

2. (Previously Presented) The oxynitride phosphor according to claim 1; wherein said crystal is substantially Al-free crystal.

3. (Currently Amended) The oxynitride phosphor according to claim 1; wherein of said Group II elements one or more are selected from the group consisting of Ca, and Sr, ~~and Ba~~, wherein said activator R contains Eu.

4. (Previously Presented) The oxynitride phosphor according to claim 1; wherein said Group II element and said activator R are in a molar ratio of 1 : 0.005 to 1 : 0.15.

5. (Previously Presented) The oxynitride phosphor according to claim 1;

containing O and N of which weight ratio is set so that N is within a range of 0.2 to 2.1 per 1 of O.

Claim 6 (Canceled).

7. (Currently Amended) The oxynitride phosphor according to claim 1; ~~claim 7~~;
wherein said L is one or more selected from the group consisting of Ca, and Sr, ~~and~~ Ba, wherein said activator R contains Eu.

8. (Previously Presented) The oxynitride phosphor according to claim 7;
wherein said X, said Y and said Z are $X = 1$, $Y = 2$, and $Z = 2$.

9. (Previously Presented) The oxynitride phosphor according to claim 7;
wherein 50 weight % or more of said R is Eu.

10. (Currently Amended) An oxynitride ~~The oxynitride phosphor consisting of a crystal which has a unit lattice of the rhombic system, the oxynitride phosphor being according to claim 1; which is~~ represented by a general formula of $L_x M_y Q_t O_z N_{((2/3)X + (4/3)Y + T - (2/3)Z)} : R$ (L is at least one or more of Group II elements selected from the group consisting of Mg, Ca, Sr, and Ba, M is Si, Q is at least one or more of Group III elements selected from the group consisting of B, Al, Ga and In, O is an oxygen element, N is a nitrogen element, R is a rare earth element, and wherein $0.5 < X < 1.5$, $1.5 < Y < 2.5$, $0 < T < 0.5$, and $1.5 < Z < 2$).

11. (Previously Presented) The oxynitride phosphor according to claim 10; wherein said L is one or more selected from the group consisting of Ca, Sr, and Ba, wherein said activator R contains Eu.

12. (Previously Presented) The oxynitride phosphor according to claim 10; wherein said X, said Y and said Z are $X = 1$, $Y = 2$, and $Z = 2$.

13. (Previously Presented) The oxynitride phosphor according to claim 10; wherein 50 weight % or more of said R is Eu.

14. (Previously Presented) The oxynitride phosphor according to claim 1; which is excited by light from an excitation light source having a luminescence peak wavelength at 490nm or less, and have luminescence spectra having luminescence peak wavelengths at a longer wavelength side than said luminescence peak wavelength.

15. (Previously Presented) The oxynitride phosphor according to claim 1; which comprises Ba, Si and Eu and which is excited by light from the excitation light source having a luminescence peak wavelength at 360nm to 480nm, and emits light having luminescence spectra having luminescence peak wavelengths at a longer wavelength side than said luminescence peak wavelength.

16. (Previously Presented) The oxynitride phosphor according to claim 1; which has a luminescence spectra having a peak wavelength in a range of from blue green to yellow red region.

17. (Previously Presented) The oxynitride phosphor according to claim 1; which comprises Ba, Si and Eu and has a luminescence spectra having a peak wavelength in a range of from blue green to green region.

18. (Previously Presented) The oxynitride phosphor according to claim 1; wherein luminescence intensity excited by light of 370nm is higher than luminescence intensity excited by light of 500nm.

19. (Previously Presented) The oxynitride phosphor according to claim 1; which comprises Ba, Si and Eu,
wherein the luminescence intensity excited by light of about 460nm is higher than luminescence intensity excited by light of about 350nm.

20. (Currently Amended) The oxynitride phosphor according to claim 1; which has 2 or more of Group II elements selected from the group consisting of Mg, Ca, and ~~Sr, and Ba.~~

21. (Currently Amended) The oxynitride phosphor according to claim 10; ~~claim 1~~; which contains Sr and Ca in a molar ratio of Sr : Ca = x:y, wherein x=0 and y=10, x=3 and y=7, x=5 and y=5, x=6 and y=4, x=7 and y=3, x=8 and y=2, x=9 and y=1, or x=10 and y=0.

22. (Currently Amended) The oxynitride phosphor according to claim 10; ~~claim 1~~; which contains Sr and Ba in a molar ratio of Sr : Ba = x:y, wherein x=10 and y=0, x=8 and y=2, x=6 and y=4, x=4 and y=6, x=2 and y=8, or x=0 and y=10.

23. (Previously Presented) The oxynitride phosphor according to claim 1; which contains Ca and Ba in a molar ratio of Ca : Ba = x:y, wherein x=8 and y=2, x=6 and y=4, x=4 and y=6, or x=2 and y=8.

24. (Previously Presented) The oxynitride phosphor according to claim 1; of which luminescence peak wavelength and color tone are set by an addition amount of said activator R.

25. (Previously Presented) The oxynitride phosphor according to claim 1; wherein a portion of said Group II element is substituted with said activator R in a molar ratio of (a mix amount of said Group II elements and said activator R) : (the amount of said activator R) = 1 : 0.001 to 1 : 0.8.

26. (Previously Presented) A process for production of an oxynitride phosphor comprising;

a first step of mixing raw materials containing the nitride of L (L is at least one or more of Group II elements selected from the group consisting of Be, Mg, Ca, Sr, Ba and Zn, the nitride of M (M is at least one or more of Group IV elements selected from the group consisting of C, Si, Ge, Sn, Ti, Zr and Hf), the oxide of M, and the oxide of R (R are one or more rare earth elements), and

a second step of firing the mixture obtained in said first step.

27. (Previously Presented) The process for production of an oxynitride phosphor according to claim 26;

wherein of said Group II elements one or more are selected from the group consisting of Ca, Sr, Ba and Zn,

wherein of said Group IV elements one or more are selected from the group consisting of C, Si, Ge, Sn, Ti, Zr and Hf,

wherein said rare earth elements contain Eu.

wherein said oxide of R and said nitride of L are in a molar ratio within a range of said nitride of L : said oxide of R = 1 : 0.005 to 1 : 0.15.

28. (Previously Presented) The process for production of an oxynitride phosphor according to claim 26;

wherein a nitride of R is used in place of said oxide of R, or together with said oxide of R.

29. (Previously Presented) The process for production of an oxynitride phosphor according to claim 26;

wherein a compound of Q (Q is at least one or more of Group III elements selected from the group consisting of B, Al, Ga and In) is further mixed in said first step.

30. (Previously Presented) The process for production of an oxynitride phosphor according to claim 26;

wherein said nitride of L, said nitride of M and said oxide of M are adjusted in molar ratios of $0.5 < \text{the nitride of L} < 1.5$, $0.25 < \text{the nitride of M} < 1.75$ and $2.25 < \text{the oxide of M} < 3.75$ in said first step.

31. (Previously Presented) The process for production of an oxynitride phosphor according to claim 26;

wherein at least a portion of the raw material of said nitride of L is substituted with at least either of the oxide of R and a nitride of R.

32. (Previously Presented) The oxynitride phosphor produced by the process according to claim 26.

Claims 33-47 (Canceled).

48. (New) The oxynitride phosphor according to claim 10;
wherein said crystal is substantially Al-free crystal.

49. (New) The oxynitride phosphor according to claim 1;
wherein of said Group II elements one or more are selected from the group consisting of Ca, Sr, and Ba, wherein said activator R contains Eu.

50. (New) The oxynitride phosphor according to claim 10;
wherein said Group II element and said activator R are in a molar ratio of 1 : 0.005 to 1 : 0.15.

51. (New) The oxynitride phosphor according to claim 5;
containing O and N of which weight ratio is set so that N is within a range of 0.2
to 2.1 per 1 of O.

52. (New) The oxynitride phosphor according to claim 10;
wherein said L is one or more selected from the group consisting of Ca, Sr, and
Ba, wherein said activator R contains Eu.

53. (New) The oxynitride phosphor according to claim 10;
which is excited by light from an excitation light source having a luminescence
peak wavelength at 490nm or less, and have luminescence spectra having
luminescence peak wavelengths at a longer wavelength side than said luminescence
peak wavelength.

54. (New) The oxynitride phosphor according to claim 10; which comprises
Ba, Si and Eu and which is excited by light from the excitation light source having a
luminescence peak wavelength at 360nm to 480nm, and emits light having
luminescence spectra having luminescence peak wavelengths at a longer wavelength
side than said luminescence peak wavelength.

55. (New) The oxynitride phosphor according to claim 10; which has a
luminescence spectra having a peak wavelength in a range of from blue green to yellow
red region.

56. (New) The oxynitride phosphor according to claim 10; which comprises Ba, Si and Eu and has a luminescence spectra having a peak wavelength in a range of from blue green to green region.

57. (New) The oxynitride phosphor according to claim 10;
wherein luminescence intensity excited by light of 370nm is higher than luminescence intensity excited by light of 500nm.

58. (New) The oxynitride phosphor according to claim 10;
which comprises Ba, Si and Eu,
wherein the luminescence intensity excited by light of about 460nm is higher than luminescence intensity excited by light of about 350nm.

59. (New) The oxynitride phosphor according to claim 10; which has 2 or more of Group II elements selected from the group consisting of Mg, Ca, Sr, and Ba.

60. (New) The oxynitride phosphor according to claim 10; which contains Ca and Ba in a molar ratio of Ca : Ba = x:y, wherein x=8 and y=2, x=6 and y=4, x=4 and y=6, or x=2 and y=8.

61. (New) The oxynitride phosphor according to claim 10; of which luminescence peak wavelength and color tone are set by an addition amount of said activator R.

62. (Previously Presented) The oxynitride phosphor according to claim 10;

wherein a portion of said Group II element is substituted with said activator R in a molar ratio of (a mix amount of said Group II elements and said activator R) : (the amount of said activator R) = 1 : 0.001 to 1 : 0.8.